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10/571,607	01/12/2007	Janne Pesia	3772-30	9823

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NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

EXAMINER	
PATEL, MAHENDRA R	

ART UNIT	PAPER NUMBER
2617	

NOTIFICATION DATE	DELIVERY MODE
01/03/2012	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOMAIL@nixonvan.com
clm@nixonvan.com

Office Action Summary	Application No.	Applicant(s)	
	10/571,607	PESIA ET AL.	
	Examiner	Art Unit	
	MAHENDRA PATEL	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/30/2011*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) *8-13 and 17-20* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *8-13 and 17-20* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

12)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of the Claims

1. This communication is in response to amendment filed on 11/30/2011. Application No: 10571607.

Claims 1-21 are pending.

Group I: Claims 1, 2, 3, 4, 5, 6, 7, 14, 15, 16 and 21.

Group II: Claims 8,9,10,11,12,13, 17, 18, 19 and 20.

Applicant has elected Group II.

Continued Examination under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/30/2011 has been entered.

Response to Amendment

3. An examiner's Response to the record appears below.

4. Applicant's amendments with respect to the claims 1-21 have been considered.

Claim Objections

5. Claim 17 is objected to because of the following informalities: This is a mixed claim with limitations from Group I and Group II. The limitation, "where signals are transported **over two**

cascaded radio links" belongs to the Group I, therefore must be deleted. Appropriate correction is required.

Claim 17 is objected to because of the following informalities: The limitation, "value for the **TCP p window** size." contains extra **p** (i.e. Appears to be a typing error). Appropriate correction is required.

Claim 18 is objected to because of the following informalities: The limitation, "one of the **PCT** parameters of segment size." contains **PCT**, which is not defined (i.e. appears to be a typing error, it should be TCP). Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 17-20 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: "where signals are transported **over two cascaded radio links**". This statement belongs to the Group I; there is no structural relation to Group II. Appropriate correction is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. **Claims 8-13 and 17-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Cuny et al. (US 20030179720 A1) in view of Ha et al. (US 20020150048 A1).

Regarding claim 8, Cuny teaches a method of optimizing the use of radio resources in a mobile radio communication system during a combinational multimedia session involving circuit switched and packet switched sessions between user terminals ([0005] , e.g. The core network in UMTS can include a so-called hybrid **combination of circuit switched and packet switched networks**).

setting a Transport Control Protocol (TCP) sending window size at at least one user terminal for said packet switched session ([abstract], e.g. When the mobile terminal (100) returns acknowledgements (ACKs) to the **TCP sender** (310) via the associated uplink buffer (330) in the RNC, the Advertised Window (AW) in the ACK header is modified according to the amount of data in the associated channel's downlink buffer where the ACK is then forwarded to the TCP sender. [0040], the advertise window (AW) value is then calculated as follows: AW=A*log (BufferSize-QueueLength). [0041] A (**initially** set to 1) **is used to calculate the window value** and where it varies slowly as the buffer occupancy increases or decreases).

the TCP window size being different from the parameter(s) used for non-combinational multimedia session related packet traffic ([0048], e.g. It should be noted that the values for the **variables may depend on** the end-to-end delay experienced by TCP connections and on **the bandwidth of available** along the path **(i.e. different bandwidth for** non-combinational multimedia, hence different parameter for calculation, therefore different window size) whereby suitable values can be obtained by experimentation).

Cuny differs from the claimed invention in not specifically teaching wherein window size as to be larger than that of a multimedia object to be sent.

However, in the same field of endeavor, Ha teaches wherein window size as to be larger than that of a multimedia object to be sent ([0051], e.g. For example, a subscriber with a higher priority may be allocated a **larger initial congestion window** corresponding to a higher initial data rate. Alternatively, the congestion window may be initialized based on the **type of data being transmi**tted. For example, a connection a for **multimedia data streaming may receive a**

larger initial congestion window as compared to a connection established to transmit an **email message** to account for the larger data rate requirement of the multimedia connection).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement the methods of Ha (i.e. data transport acceleration) within the method of Cuny (a method of controlling congestion) in a wireless communication system. The new method provides a timer-based approach to flow control, offers a more **relevant estimate of congestion** within the communication network and may **reduce or eliminate the burst transmission** of data commonly associated with conventional TCP architectures (See Ha [0011]).

Regarding claim 9, Cuny teaches a method of operating a user terminal of a mobile radio

communication system ([abstract], e.g. A wireless telecommunication system for packet transfers between **a mobile terminal** (100) and a TCP sender), the method comprising:

setting a Transport Control Protocol (TCP) sending window size session ([abstract], e.g. When the mobile terminal (100) returns acknowledgements (ACKs) to the **TCP sender** (310) via the associated uplink buffer (330) in the RNC, the Advertised Window (AW) in the ACK header is modified according to the amount of data in the associated channel's downlink buffer where the ACK is then forwarded to the TCP sender. [0040], the advertise window (AW) value is then calculated as follows: AW=A*log (BufferSize-QueueLength). [0041] A (**initially** set to 1) **is used to calculate the window value** and where it varies slowly as the buffer occupancy increases or decreases).

For a packet switched session associated with a combinational multimedia session ([0005], e.g. the core network in UMTS can include a so-called hybrid **combination of circuit switched and packet switched networks**).

the TCP window size being different from the parameter(s) used for non-combinational multimedia session related packet traffic ([0048], e.g. It should be noted that the values for the **variables may depend on** the end-to-end delay experienced by TCP connections and on **the bandwidth of available** along the path **(i.e. different bandwidth for** non-combinational multimedia, hence different parameter for calculation, therefore different window size) whereby suitable values can be obtained by experimentation).

Cuny differs from the claimed invention in not specifically teaching wherein window size as to be larger than that of a multimedia object to be sent.

However, in the same field of endeavor, Ha teaches wherein window size as to be larger than that of a multimedia object to be sent ([0051], e.g. For example, a subscriber with a higher priority may be allocated a **larger initial congestion window** corresponding to a higher initial data rate. Alternatively, the congestion window may be initialized based on the **type of data being transmi**tted. For example, a connection a for **multimedia data streaming may receive a larger initial congestion window** as compared to a connection established to transmit an **email message** to account for the larger data rate requirement of the multimedia connection).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement the methods of Ha (i.e. data transport acceleration) within the method of Cuny (a method of controlling congestion) in a wireless communication system. The new

method provides a timer-based approach to flow control, offers a more **relevant estimate of congestion** within the communication network and may **reduce or eliminate the burst transmission** of data commonly associated with conventional TCP architectures (See Ha [0011]).

Regarding claim 10, Cuny in view of Ha teaches the entire limitations claim 8. Cuny further teaches the wherein said TCP sending parameters are segment size and/or initial window size ([0030], e.g. It should be noted that the **AW value may** be lower in smaller increments …. Moreover, the reductions should not be made to a level where the value falls below the Maximum **Segment** Size (MSS), which was determined when the TCP connection session was established. By way of example, **a typical MSS value can be 1500 bytes, 1024 bytes, or 512 bytes**).

Regarding claim 11, Cuny in view of Ha teaches the entire limitations claim 10.

Cuny differs from the claimed invention in not specifically teaching wherein comprising setting the TCP sending parameters such that a TCP sending window is greater than a size of media to be sent.

However, in the same field of endeavor, Ha teaches wherein comprising setting the TCP sending parameters such that a TCP sending window is greater than a size of media to be sent ([0051], e.g. For example, a subscriber with a higher priority may be allocated a **larger initial congestion window** corresponding to a higher initial data rate. Alternatively, the congestion window may be initialized based on the **type of data being transmi**tted. For example, a connection a for **multimedia data streaming may receive a larger initial congestion window**

as compared to a connection established to transmit an **email message** to account for the larger data rate requirement of the multimedia connection).

The motivation for combining the teachings of the references is the same as in the claim 8.

Regarding claim 12, Cuny in view of Ha teaches the entire limitations claim 10. Cuny further teaches the wherein setup of setting the TCP window size comprises increasing the window size relative to that used for non-combinational multimedia session related packet traffic ([abstract], e.g. When the mobile terminal (100) returns acknowledgements (ACKs) to the **TCP sender** (310) via the associated uplink buffer (330) in the RNC, the Advertised Window (AW) in the ACK header is modified according to the amount of data in the associated channel's downlink buffer where the ACK is then forwarded to the TCP sender. [0040], the advertise window (AW) value is then calculated as follows: AW=A*log (BufferSize-QueueLength). [0041] A (**initially** set to 1) **is used to calculate the window value** and where it varies slowly as the buffer occupancy increases or decreases. ([0048], e.g. It should be noted that the values for the **variables may depend on** the end-to-end delay experienced by TCP connections and on **the bandwidth of available** along the path **(i.e. different bandwidth for** non-combinational multimedia, hence different parameter for calculation, therefore different window size) whereby suitable values can be obtained by experimentation).

Regarding claim 13, this claim is analogous to the claim 10. Therefore the same rejections and citations of claim 10 apply.

Regarding claim 17, Cuny teaches a method of operating a mobile radio communication system ([abstract], e.g. A wireless telecommunication system for packet transfers between **a mobile terminal** (100) and a TCP sender, comprising:

detecting activation of a combinational multimedia session ([0006], e.g. The SGSN 140 performs mobility management functions such as **querying** the HLR 110 to **obtain the service profile (i.e.** detecting activation) of GPRS subscribers and detecting and performing registration of new GPRS subscribers entering the service area).

Involving circuit switched and packet switched sessions between user terminals associated with respective radio network control nodes ([0005], e.g. the core network in UMTS can include a so-called hybrid **combination of circuit switched and packet switched networks.** The hybrid network permits (i.e. detects) the handling of circuit switched voice calls on the circuit switched network and IP-based data traffic on the packet switched network).

where signals are transported over two cascaded radio links ([0005], e.g. The BSS also provides transcoder, sub multiplexer and cellular transmission functions for the network and establishes a connection to the packet switched subsystem via **link** 108. Calls originating from the mobile terminal 100 to the PSTN 120 are carried out via the BSC 105 and MSC 115 to the **Internet or PSTN receiver (i.e. calls are link over cellular network to the Internet network, forming two cascade links)**).

and, in response to the detecting, setting Transport Control Protocol (TCP) sending window size at at least one user terminal for said packet switched session ([abstract], e.g. When the mobile terminal (100) returns acknowledgements (ACKs) to the **TCP sender** (310) via the

associated uplink buffer (330) in the RNC, the Advertised Window (AW) in the ACK header is modified according to the amount of data in the associated channel's downlink buffer where the ACK is then forwarded to the TCP sender. [0040], the advertise window (AW) value is then calculated as follows: AW=A*log (BufferSize-QueueLength). [0041] A (**initially** set to 1) **is used to calculate the window value** and where it varies slowly as the buffer occupancy increases or decreases).

the suitable value for the TCP window size being different from the parameter(s) used for non-combinational multimedia session related packet traffic ([0048], e.g. It should be noted that the values for the **variables may depend on** the end-to-end delay experienced by TCP connections and on **the bandwidth of available** along the path **(i.e. different bandwidth for** non-combinational multimedia, hence different parameter for calculation, therefore different window size) whereby suitable values can be obtained by experimentation).

Cluny differs from the claimed invention in not specifically teaching wherein window size as to be larger than that of a multimedia object to be sent.

However, in the same field of endeavor, Ha teaches wherein window size as to be larger than that of a multimedia object to be sent ([0051], e.g. For example, a subscriber with a higher priority may be allocated a **larger initial congestion window** corresponding to a higher initial data rate. Alternatively, the congestion window may be initialized based on the **type of data being transmi**tted. For example, a connection a for **multimedia data streaming may receive a larger initial congestion window** as compared to a connection established to transmit an **email message** to account for the larger data rate requirement of the multimedia connection).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement the methods of Ha (i.e. data transport acceleration) within the method of Cluny (a method of controlling congestion) in a wireless communication system. The new method provides a timer-based approach to flow control, offers a more **relevant estimate of congestion** within the communication network and may **reduce or eliminate the burst transmission** of data commonly associated with conventional TCP architectures (See Ha [0011]).

Regarding claim 18, this claim is analogous to the claim 10. Therefore the same rejections and citations of claim 10 apply.

Regarding claim 19, this claim is analogous to the claim 11. Therefore the same rejections and citations of claim 11 apply.

Regarding claim 20, this claim is analogous to the claim 12. Therefore the same rejections and citations of claim 12 apply.

Response to Arguments

9. Applicant's arguments filed on 05/17/2010 have been full considered but they are moot in view of the new ground(s) of rejection.

The Examiner would like to point out that during patent examination**, the claims must be given their broadest reasonable interpretation**. See MPEP 2111. Independent claims 8, 9, and 17 are broad with broadly used terms with known concept in the art. Therefore, claims are broadly interpreted. It is recommended to incorporate a few **active invention steps into all**

independent claims. Also it is recommended to add a few new limitations to all independent claims which may help to determine patentability.

Optionally, applicant may arrange telephone interview with examiner to discuss various rejections. Arguments and response appears below:

Arguments in remarks are moot in view of the of the new ground(s) of rejection.

Prior Art Record

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Fan, Kan Frankie et al. (US 20040047361 A1) - Method and system for TCP/IP using generic buffers for non-posting TCP applications.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mahendra Patel whose telephone number is 571-270-7499. The examiner can normally be reached on 9:30 AM to 5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nick Corsaro can be reached on (571) 272-7876. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http: //pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MAHENDRA PATEL/
Examiner, Art Unit 2617